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(54) GEL ELECTROLYTE

(57)Abstract:

PURPOSE: To increase gel strength, and also enhance an ion transmission rate by forming composition composed of specified water absorptive polyalkyleneoxide denatured material, and of non-organic oxide, irradiating electron beam on the composition, and letting the composition be impregnated with electrolyte and non-aqueous organic solvent thereafter.

CONSTITUTION: Let a compound of polyalkylene oxide whose weight average molecular weight is 1000 to 1000000, with polyol and isocyanate be reacted under a presence of catalyst in a tin system and/ or in an amine system to obtain polyalkylene oxide denatured material in such a way that a ratio of the sum of end hydroxyl groups and polyol hydroxyl groups to the number of the isocyanate groups of an isocyanate compound is 0.5 to 2.0. Hundred parts of the aforesaid denatured material by weight is blended with 0.1 to 20 parts of non-organic oxide by weight, which is less than 10 μ m in grain size, so as to be formed into a composition, electron beam of 5 to 500KGy is irradiated on the aforesaid composition thereafter, the composition is then impregnated with organic solvent in a non-aqueous system whose non-organic electrolyte concentration is 10⁻³ to 3mol/l at a rate of 0.001l through 20g per 1g of polyalkylene oxide.

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(54)【発明の名称】 ゲル状電解質

(57)【要約】

【目的】 電池や電気化学デバイス材料用のゲル状電解質の提供。

【構成】 重量平均分子量が1000~100万のポリアルキレンオキシドと、ポリオールと、イソシアネート化合物とをアミン系および/またはスズ系触媒の存在下で反応させて得られる熱可塑性を有する吸水性ポリアルキレンオキシド変性物100重量部と無機酸化物0.1~20重量部からなる組成物を成型し、5~500Kgの電子線を照射した後に電解質および非水系有機溶剤を含浸させてなるゲル状電解質。

【効果】 加工性が良好で薄膜化が可能で非水電解質溶液を吸収した際も十分なゲル強度を有し、イオン伝導率も良好なゲル状電解質が提供される。